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| 10/013,121 | 12/07/2001 | Timothy E. Walsh | 12334 B | 9470 |

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|---|---|
| RODRIGUEZ, RUTH C | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3677 | |

DATE MAILED: 01/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/013,121 | WALSH ET AL. | |
| | Examin r | Art Unit | |
| | Ruth C Rodriguez | 3677 | |

*-- The MAILING DATE f this communication appears on the c ver sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *01 October 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh et al. (US 5,195,789) in view of Cohn (US 2,039,886) and Arnoldt et al. (US 4,566,724).

Walsh discloses a connector (12) joins a first piece of sheet metal (30) and a second piece of sheet metal (56) together end-to-end (Figs. 1-6). The connector has a length and a longitudinal centerline. The first piece of sheet metal has a raw free end (50) with at least one wedge-shaped reverse button lock projection (60) and the second piece of sheet metal has a raw free end (Figs. 1-6). The connector comprises a first wall (18), a second wall (33), a ledge (36) and a third wall (14). The second wall and said first wall define a first channel (34) therebetween. The ledge extends inwardly from said second wall and the ledge extends into said first channel (Fig. 5). The first channel lockingly receives the raw free end of the first piece of sheet metal by virtue of the at least one wedge-shaped reverse button lock projection on the raw free end of the first piece of sheet metal spreading the second wall away from the first wall as the raw free end of the first piece of sheet metal slips through the first channel until such time as the

at least one wedge-shaped reverse button lock projection on the raw free end of the first piece of sheet metal just clears the ledge causing said second wall to unspread, and in so doing, causes the at least one wedge-shaped reverse button lock projection on the raw free end of the first piece of sheet metal to be snapingly engaged onto, and lockingly captured against, said ledge, and in so doing, the first piece of sheet metal is secured in said connector (C. 2, L. 65-68 and L. 1-4). The third wall terminates in a free edge (22). The third wall and said first wall define a second channel (20) therebetween. The second channel receives the raw free end of the second piece of sheet metal and retains raw free end by virtue of a viscous adhesive sealant. The second piece of sheet metal is secured in said connector (Fig. 2). The first channel and the second channel open in opposite directions from each other for joining the first piece of sheet metal and the second piece of sheet metal together end-to-end (Fig. 5). The first channel and the second channel are offset relative to each other (Fig. 5). Walsh fails to disclose that the second piece of sheet metal has at least one wedge-shaped reverse button lock projection, a joggle inward of the at least one wedge-shaped button projection and a folded free edge on the third wall. However, Cohn teaches a connector (18) having a channel (66) formed between a first wall (65) and a second wall (63). The second wall has a free edge (71) and the free edge of the second wall is folded inwardly onto itself so as to form a folded free edge (70). A piece of sheet metal has a raw free end (60), the free edge of the sheet metal is folded inwardly onto itself so as to form a folded free edge (58) and a joggle (61) inward of the folded free edge thereon (Fig. 10). The channel lockingly receives the raw free end of the second piece of sheet metal by virtue of the folded free edge on the raw free end of the sheet metal spreading the second wall away from the first wall as the piece of sheet metal slips through the channel until such time as the at folded free edge on the

raw free end of piece of sheet metal just clears said folded free edge of said second wall causing said second wall to unspread, and in so doing, causes the folded free edge on the raw free end of the piece of sheet metal to be snapingly engaged onto, and lockingly captured against, said folded free edge of said second wall, and in so doing, the piece of sheet metal is secured in said connector (P. 3, C. 2, L. 30-48). The channel is offset relative to a third wall of the connector, as a result thereof, requires the joggle on the raw free end of the piece of sheet metal to offset the piece of sheet metal so as to align the third wall of the connector with the piece of sheet metal to avoid a need for field dressing. The use of the folded free edge of the second wall of the connector with the folded free edge of the piece of sheet metal securely locks the connector with the sheet metal (P. 3, C. 2, L. 43-48). Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have a folded free edge on the third wall of the connector, a folded free edge on the second piece of sheet metal and a joggle inward of the folded free end of the second piece of sheet metal as taught by Cohn in the third wall of the connector and the second piece of sheet metal disclosed by Walsh. Doing so, securely locks the connector with the sheet metal. Regarding to having at least one wedge-shaped reverse button lock projection in the second piece of sheet metal, Arnoldt et al. demonstrates a connector (26) joining a first piece of sheet metal (10) and a second piece of sheet metal (10) together end-to-end (Fig. 5). The connector has a length and a longitudinal centerline. The first piece of sheet metal has a raw free end (22) with at least one wedge-shaped reverse button lock projection (80) and the second piece of sheet metal has a raw free end (22) with at least one wedge-shaped reverse button lock projection (80) (Fig. 5). The connector comprises (26) having a channel formed between a first wall (44) and a second wall (62). The second wall has a free edge (71)

and the free edge of the second wall is folded inwardly onto itself so as to form a folded free edge (64). The channel lockingly receives the raw free end of the second piece of sheet metal by virtue of the folded free edge on the raw free end of the sheet metal spreading the second wall away from the first wall as the piece of sheet metal slips through the channel until such time as the at least one wedge-shaped reverse button lock projection on the raw free end of piece of sheet metal just clears said folded free edge of said second wall causing said second wall to unspread, and in so doing, causes the folded free edge on the raw free end of the piece of sheet metal to be snapingly engaged onto, and lockingly captured against, said folded free edge of said second wall, and in so doing, the piece of sheet metal is secured in said connector (Fig. 5). The at least one wedge-shaped reverse button lock projection have a configuration facilitating unobstructed insertion of the piece of sheet metal between the first wall and the second wall so that the piece of sheet metal can about end of the channel while preventing retraction of the piece of sheet metal from the channel because the protuberance (80) will be abutting the folded free edge (64) (C. 7, L. 4-27). Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have the at least one wedge-shaped reverse button lock projection engaging the folded free end of the connector as demonstrated by Arnoldt in the connector disclosed by Walsh and modified by Cohn. Doing so, facilitates unobstructed insertion of the piece of sheet metal between the first wall and the second wall so that the piece of sheet metal can about end of the channel while preventing retraction of the piece of sheet metal from the channel because the protuberance will be abutting the folded free edge.

Walsh discloses that:

- The connector is made from one continuous piece of pliable sheet metal and the one continuous piece of pliable sheet metal is bent, rolled, and molded to form the connector (C. 2, L. 27 and 28).

- The one continuous piece of pliable sheet metal has a thickness and the thickness of the one continuous piece of sheet metal ranges from eighteen to twenty-four gauge (C. 3, L. 48-51).

- The one continuous piece of pliable sheet metal is made from galvanized sheet steel that combats corrosion (C. 3, L. 48-51).

Walsh and Cohn fail to disclose that the connector is made from extruded plastic. However, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to make the connector from extruded plastic, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In this case, the use of plastic is highly recommended because of its light weight that is highly desired in ducts, it will not become corroded as metal connectors and the connector will be easier and less costly to make because of the extrusion process.

Walsh also discloses that:

- The connector further comprising a fourth wall (38,40) extending from the ledge to a terminal edge.

- The connector further comprising a flange (44) extending outwardly from the fourth wall and the flange structurally stiffens said connector.

- The connector further comprising an adhesive sealing compound (24,24'). The adhesive sealing compound material is highly viscous (C. 2, L. 36-37). The adhesive sealing compound material (24') fills the first channel, the adhesive sealing compound material adheres to said first channel and the adhesive sealing compound material is for adhering to the raw free end of the first piece of sheet metal (C. 2, L. 60-68, C. 3, L. 1-12 and Fig.5). The adhesive sealing compound material is for sealing the raw free end of the first piece of sheet metal in the first channel against leakage of a material flowing along the first piece of sheet metal (C. 3, L. 24-47). The adhesive sealing compound material (24) fills the second channel, the adhesive sealing compound material adheres to the second channel and the adhesive sealing compound material is for adhering to the raw free end of the second piece of sheet metal (C. 2, L. 36-37 and Fig.5). The adhesive sealing compound material is for sealing the raw free end of the second piece of sheet metal in said second channel against leakage of a material flowing along the second piece of sheet metal (C. 3, L. 24-47).

- The first wall is flat, the second wall is flat and the third wall is flat (Fig. 5).

- The second wall is parallel to the first wall and the third wall is parallel to the first wall (Fig. 5).

- The second wall is slightly spaced from one side of the first wall so as to allow the first channel to be narrow and the third wall is slightly spaced from the other side of the first wall so as to allow said second channel to be narrow (Fig. 5).

- The second wall is one-piece with the first wall (Fig. 5). The second wall is bent from one longitudinal edge of the first wall to fold thereover in a direction towards the other longitudinal edge of the first wall (Fig. 5). The third wall is one-piece with the first wall (Fig. 5).

The third wall is bent from the other longitudinal edge of the first wall to fold thereunder in a direction towards the one longitudinal edge of the first wall (Fig. 5).

- The first channel opens laterally so as to form a lateral opening and the lateral opening of the first channel is for receiving the raw free end of the first piece of sheet metal (Fig. 5). The second channel opens laterally so as to form a lateral opening and the lateral opening of the second channel is for receiving the raw free end of the second piece of sheet metal Fig. 5).

Walsh discloses that the second wall terminates in a terminal edge, the terminal edge of the second wall is disposed in close proximity to the longitudinal center line of the connector and the terminal edge of the second wall is disposed to one side of the longitudinal centerline of the connector (Fig. 5). The edge of said third wall is disposed in close proximity to the longitudinal centerline of the connector and the edge of the third wall is disposed to the other side of the centerline of the connector (Fig. 5). The ledge extends perpendicular from the second wall and the ledge extends inwardly from the terminal edge of the second wall to a terminal edge (Fig. 5). The terminal edge of the ledge is slightly spaced from the first wall (Fig. 5). The fourth wall extends from said terminal edge of the ledge to a terminal edge and the terminal edge of the fourth wall is disposed in substantial alignment with said folded free edge of said third wall (Fig. 5). Walsh fails to disclose the folded free edge of the third wall. However as mentioned above, Cohn teaches a folded free edge of the second wall used to lockingly engage a second piece of sheet metal. Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have a folded free edge on the third wall of the connector as taught by Cohn in the third wall of the connector disclosed by Walsh. Doing so, securely locks the connector with the sheet metal.

Walsh also discloses that:

- The fourth wall is flat, the fourth wall is parallel to the first wall, the fourth wall is parallel to the second wall and the fourth wall is parallel to the third wall.

- The fourth wall has a drill rail, the drill rail extends the length of the connector, the drill rail prevents a self-tapping sheet metal screw being screwed into the fourth wall from skipping thereacross (C. 3,L. 52-56). The self-tapping sheet metal screw is for screwing into the fourth wall, the first piece of sheet metal, the first wall, the second piece of sheet metal, and the third wall if required in order to comply to a local building code (C. 3,L. 52-56).

- The flange is flat and extends outwardly from the terminal edge of the fourth wall to a free edge. The flange extends in a direction away from the first wall, the flange extends in a direction away from the second wall, the flange extends in a direction away from the third wall and the flange has a free edge (Fig. 5). The free edge of the flange is folded onto itself in a direction toward the ledge so as to form a folded free edge and the folded free edge of the flange further structurally stiffens said connector and eliminates a sharp edge (Fig. 5). Walsh fails to disclose that the free edge is folded onto itself in a direction away from the ledge. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the ledge folding away from the ledge instead of folding toward the ledge because a change in shape of a prior art device is a design consideration within the skill in the art. *In re Dailey*, 357 F. 2d 669, 149 USPQ 47 (CCPA 1966). Especially, since the applicant fails to provide any advantage derived from orientating of the folded edge away from the ledge instead of being oriented toward the ledge.

- The first wall extends the length of said connector, the second wall extends the length of the connector, the third wall extends the length of the connector, the ledge extends the length of the connector, the fourth wall extends the length of the connector and the flange extends the length of the connector (Fig. 6).

- The flange has a height and the height of said flange is directly proportional to the length of said connector (Figs. 5 and 6).

Walsh fails to disclose that the height of the flange is in a range of approximately 3/8 inches to approximately 1-3/8 inches. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the height of the flange being in a range of approximately 3/8 inches to approximately 1-3/8 inches, since such a modification would have involved a mere change of the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claim 21 having almost the same limitations as claim 1, Walsh also discloses that two pieces of sheet metal (30,56) are being joined end-to-end by a connector (12).
The rejection of claim 1 used above can also be used to reject claim 22 because claim 22 only recites one piece of sheet metal (56) being received by the connector (12) but the rest of the limitations will also be the same with the exception of the second piece of sheet metal and the second channel.

Finally, claim 23 can also be rejected using the rejection made for claim 1. Claim 23 recites that the same limitations of claim 1 but as disclosed by Walsh the second piece of sheet metal does not have at least one wedge-shaped reverse button lock projection. However, Walsh

still will fail to mention a joggle in the second piece of sheet metal. Nonetheless as mentioned above Cohn teaches a piece of sheet metal having a joggle to offset the piece of sheet metal so as to align the third wall of the connector with the piece of sheet metal that can avoiding a need for field dressing (P. 3, C. 2, L. 34-39). Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have a joggle in the second piece of sheet metal as taught by Cohn in the second piece of sheet metal disclosed by Walsh. Doing so, will align the second piece of sheet metal with the first piece of sheet metal that could avoid the need for field dressing.

Regarding claim 24, this claim is rejected using a combination of the rejection of claims 1 and 5 as cited above.

Claim 25 is being rejected with a combination of the rejected claims 1, 6, 7, 14 and 17.

Regarding claim 26, this claim is rejected using a combination of the rejection of claims 1, 6, 7, 19 and 20 as cited above.

3. Claims 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh et al. (US 5,195,789) in view of Cohn (US 2,039,886) and Arnoldt et al. (US 4,566,724).

Walsh discloses a sheet metal duct connector (12) comprising a first wall (18), a second wall (33), a ledge (36) and a third wall (14). The second wall and said first wall define a first channel (34) therebetween. The ledge extends inwardly from said second wall and the ledge extends into said first channel (Fig. 5). The third wall terminates in a free edge (22). The third wall and said first wall define a second channel (20) therebetween. The first channel and the second channel open in opposite directions from each other (Fig. 5). The first channel and the second channel are offset relative to each other (Fig. 5). Walsh fails to disclose that the free edge

of the third wall is folded inwardly onto itself so as to form a folded free edge. However, Cohn teaches a connector (18) having a channel (66) formed between a first wall (65) and a second wall (63). The second wall has a free edge (71) and the free edge of the second wall is folded inwardly onto itself so as to form a folded free edge (70). The channel lockingly receives a raw free end of a second piece of sheet metal by virtue of the folded free edge on the raw free end of the sheet metal (Fig. 10). The use of the folded free edge of the second wall of the connector with a folded free edge of the piece of sheet metal securely locks the connector with the sheet metal (P. 3, C. 2, L. 43-48). Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have a folded free edge as taught by Cohn on the third wall of the connector disclosed by Walsh. Doing so, securely locks the connector with the sheet metal by providing an interference fit between the two folded free edges.

Claim 28 has the same limitation as rejected claim 27 but it also recites that the connector is made from extruded plastic. Walsh and Cohn fail to disclose that the connector is made from extruded plastic. However, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to make the connector from extruded plastic, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In this case, the use of plastic is highly recommended because of its light weight that is highly desired in ducts, it will not become corroded as metal connectors and the connector will be easier and less costly to make because of the extrusion process.

Regarding claim 29, reciting the same limitations as rejected claim 27 but also including that the connector further comprising a fourth wall (38,40) extending from the ledge to a terminal

edge and a flange (44) extending outwardly from the fourth wall and the flange structurally stiffens said connector as taught by Walsh. Walsh also discloses that the flange is flat and extends outwardly from the terminal edge of the fourth wall to a free edge. The flange extends in a direction away from the first wall, the flange extends in a direction away from the second wall, the flange extends in a direction away from the third wall and the flange has a free edge (Fig. 5). The free edge of the flange is folded onto itself in a direction toward the ledge so as to form a folded free edge and the folded free edge of the flange further structurally stiffens said connector and eliminates a sharp edge (Fig. 5). The second wall terminates in a terminal edge, the terminal edge of the second wall is disposed in close proximity to the longitudinal center line of the connector and the terminal edge of the second wall is disposed to one side of the longitudinal centerline of the connector (Fig. 5). The edge of said third wall is disposed in close proximity to the longitudinal centerline of the connector and the edge of the third wall is disposed to the other side of the centerline of the connector (Fig. 5). The ledge extends perpendicular from the second wall and the ledge extends inwardly from the terminal edge of the second wall to a terminal edge (Fig. 5). The terminal edge of the ledge is slightly spaced from the first wall (Fig. 5). The fourth wall extends from said terminal edge of the ledge to a terminal edge and the terminal edge of the fourth wall is disposed in substantial alignment with said folded free edge of said third wall (Fig. 5). Walsh fails to disclose that the free edge is folded onto itself in a direction away from the ledge and the folded free edge of the third wall. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the ledge folding away from the ledge instead of folding toward the ledge because a change in shape of a prior art device is a design consideration within the skill in

the art. *In re Dailey*, 357 F. 2d 669, 149 USPQ 47 (CCPA 1966). Especially, since the applicant fails to provide any advantage derived from orientating of the folded edge away from the ledge instead of being oriented toward the ledge. With respect to the folded free edge of the third wall, Cohn teaches a folded free edge of the second wall used to lockingly engage a second piece of sheet metal. Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have a folded free edge on the third wall of the connector as taught by Cohn in the third wall of the connector disclosed by Walsh. Doing so, securely locks the connector with the sheet metal.

Claim 30 recites the same limitations as rejected claim 27 but also including that the connector further comprising a fourth wall (38,40) extending from the ledge to a terminal edge and a flange (44) extending outwardly from the fourth wall and the flange structurally stiffens said connector as taught by Walsh. The flange disclosed by Walsh has a height and the height of said flange is directly proportional to the length of said connector (Figs. 5 and 6). Walsh fails to disclose that the height of the flange is in a range of approximately 3/8 inches to approximately 1-3/8 inches. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the height of the flange being in a range of approximately 3/8 inches to approximately 1-3/8 inches, since such a modification would have involved a mere change of the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claim 31, reciting the same limitations as rejected claim 27 but also including that the connector further comprising a fourth wall (38,40) extending from the ledge to a terminal edge as taught by Walsh. Walsh also discloses that the fourth wall has a drill rail, the drill rail

extends the length of the connector, the drill rail prevents a self-tapping sheet metal screw being screwed into the fourth wall from skipping thereacross (C. 3,L. 52-56). The self-tapping sheet metal screw is for screwing into the fourth wall, the first piece of sheet metal, the first wall, the second piece of sheet metal, and the third wall if required in order to comply to a local building code (C. 3,L. 52-56).

The same rejection of claim 29 can be used to reject claim 32 having most of the limitations included in claim 29.

***Response to Arguments***

4. Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

5. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In order to demonstrate that the knowledge relied upon in the first office action is within the lever of ordinary skill in the art at the time the claimed invention was made, the Examiner is relying upon Arnoldt that combines the two elements missing from the Walsh reference (the folded free end of the outer wall defining the channel and at least one

locking projection in the free end of the sheet of metal). For the newly added claims 27-32, the Examiner is relying in the rejection based on Walsh in view of Cohn since these claim does not recite the need of at least one locking projection and providing the folded free end of Cohn from the outer wall of the second channel and the folded free end of the sheet of metal will provide a more secure connection than just an adhesive as disclosed by Walsh.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Zack (US 1,935,690), Somers (US 2,275,572), Deitsch (US 2,498,753), Coulters (US 2,752,950), Vanden Berg (US 2,965,397), Collins (US 3,479,073), Kelvar (US 3,836,181), Marquette et al. (US 4,009,894), Smitka (US 4,252,350), Arnoldt (US 4,881,762), Jyh-Long (US 5,103,872), European Patent Document EP 0 298 912 A1 and International Patent Document WO 89/10512 are cited to show state of the art with respect to connector for two pieces of sheet metal. Kelver (US 3,836,181), Murck (US 4,564,227), Daniel (US 6,203,074 B1), Jacobson et al. (US 6,213,522 B1) and Mattsson et al. (US 2003/0160452 A1) are cited to show state of the art with respect connectors for ducts made of plastic material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth C Rodriguez whose telephone number is (703) 308-1881. The examiner can normally be reached on M-F 07:15 - 15:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on (703) 306-4115.

Submissions of your responses by facsimile transmission are encouraged. Technology center 3600's facsimile number for before and after final communications is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Ruth C. Rodriguez
Patent Examiner
Art Unit 3677

RCR
rcr
December 29, 2003

James R. Brittain
Primary Examiner